

**What is claimed is:**

1. A document processing apparatus which displays a document image using image data of a document having one or more entry columns, comprising:
  - 5 an image data obtaining unit obtaining image data of a document;
  - an area discrimination unit discriminating an area of a document image indicated by the image data obtained by said image data obtaining unit, and discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area having no useful information area;
  - 15 a data processing unit increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information area and a second partial image data which is image data of a portion for display of the useless information area based on the discrimination by said area discrimination unit; and
  - 25 a display control unit displaying a document

image on a display device using the image data obtained by said data processing unit processing at least one of the first and second partial image data.

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2. The apparatus according to claim 1, wherein said area discrimination unit considers at least one direction in counting a number of pixels assumed to be used in displaying information about 10 a document image represented by the image data, and discriminates the useful information area from the useless information area based on a counting result.

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3. The apparatus according to claim 2, wherein when said area discrimination unit discriminates the useful information area from the useless information area based on whether or not the number of pixels counted by considering one direction is equal to or smaller than a 20 predetermined value, said data processing unit increases a ratio of the useful information area to the entire area by performing on at least the second partial image data a process of thinning lines having the number of pixels equal to or 25 smaller than a predetermined value in the lines in

the one direction.

4. The apparatus according to claim 1, wherein  
said data processing unit performs a process  
5 on at least one of the first and second partial  
image data so that a ratio of the useful  
information area to the entire area can be  
increased by using different display magnifications  
of the useful information area and the useless  
10 information area.

5. A method for displaying a document image using  
image data of a document having one or more entry  
columns, comprising:

15 discriminating an area of a document image  
indicated by the image data of the document, and  
discriminating at least between two types of areas,  
that is, a useful information area having useful  
information for document processing and an useless  
20 information area having no useful information area;  
increasing a ratio of the useful information  
area to the entire area by processing at least one  
of a first partial image data which is image data  
of a portion for display of the useful information  
25 area and a second partial image data which is image

data of a portion for display of the useless information area based on the discrimination; and

displaying the document image on a display device using the image data obtained by processing

5 at least one of the first and second partial image data.

6. A document processing apparatus which processes a document having one or more entry

10 columns, comprising:

image data obtaining unit obtaining image data of a document;

area discrimination unit discriminating an area of a document image indicated by the image

15 data obtained by said image data obtaining means, and discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area having no useful

20 information area;

data processing unit increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display

25 of the useful information area and a second partial

image data which is image data of a portion for display of the useless information area based on the discrimination by said area discrimination means;

5 display control unit displaying a document image on a display device using the image data obtained by said data processing means processing at least one of the first and second partial image data;

10 document recognition unit recognizing the entry column entered on the document image displayed by said display control means; and

15 correction unit correcting presence/absence of an entry in the entry column recognized by said document recognition means at an instruction of a user.

7. A storage medium storing a program used to direct a document processing apparatus which 20 displays a document image using image data of a document having one or more entry columns, comprising the functions of:

obtaining image data of the document;

discriminating an area of a document image 25 indicated by the image data obtained by said

obtaining function, and discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area 5 having no useful information area;

increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information 10 area and a second partial image data which is image data of a portion for display of the useless information area based on the discrimination by said discriminating function; and

displaying the document image on a display 15 device using the image data obtained by processing at least one of the first and second partial image data by said increasing function.

8. A storage medium storing a program used to 20 direct a document processing apparatus which processes a document having one or more entry columns, comprising the functions of:

obtaining image data of the document;  
discriminating an area of a document image 25 indicated by the image data obtained by said

obtaining function, and discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area

5 having no useful information area;

increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information

10 area and a second partial image data which is image data of a portion for display of the useless information area based on the discrimination by said discriminating function;

displaying the document image on a display

15 device using the image data obtained by processing at least one of the first and second partial image data by said increasing function;

recognizing the entry column entered on the document image displayed by said display control

20 means; and

correcting presence/absence of an entry in the entry column recognized by said document recognition means at an instruction of a user.

25 9. A document processing apparatus which displays

a document image using image data of a document having one or more entry columns, comprising:

an image data obtaining means for obtaining image data of a document;

5 an area discrimination means for discriminating an area of a document image indicated by the image data obtained by said image data obtaining unit, and discriminating at least between two types of areas, that is, a useful 10 information area having useful information for document processing and an useless information area having no useful information area;

15 a data processing means for increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information area and a second partial image data which is image data of a portion for display of the useless information area based on 20 the discrimination by said area discrimination unit; and

25 a display control means for displaying a document image on a display device using the image data obtained by said data processing unit processing at least one of the first and second

partial image data.

10. A document processing apparatus which processes a document having one or more entry 5 columns, comprising:

image data obtaining means for obtaining image data of a document;

area discrimination means for discriminating an area of a document image indicated by the image 10 data obtained by said image data obtaining means, and discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area having no useful 15 information area;

data processing means for increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display 20 of the useful information area and a second partial image data which is image data of a portion for display of the useless information area based on the discrimination by said area discrimination means;

25 display control means for displaying a

document image on a display device using the image data obtained by said data processing means processing at least one of the first and second partial image data;

- 5        document recognition means for recognizing the entry column entered on the document image displayed by said display control means; and
- 10      correction means for correcting presence/absence of an entry in the entry column recognized by said document recognition means at an instruction of a user.